SASKATCHEWAN HEALTH RESEARCH BOARD

ANNUAL REPORT

Period ending March 31, 1989

90-03478/

—Saskatchewan Health Research Board——

#5 — 3002 Louise Street
Saskatoon, Saskatchewan
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February 1990

The Hon. George McLeod
Minister of Health
Legislative Building
Regina, Saskatchewan
S4S 0B3

The Hon. Jack Wolfe
Associate Minister of Health
Legislative Building
Regina, Saskatchewan
S4S 0B3

Sirs:

I beg to present herewith for your consideration the Annual Report of the Saskatchewan Health Research Board for the fiscal year ending March 31, 1989.

Respectfully submitted

Dr. Bev Robertson
Chairman

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1. CHAIRMAN'S STATEMENT

The Saskatchewan Health Research Board (SHRB) concluded its tenth year of operation in 1988-89. Following CONNECTIONS '88, the international symposium on gerontology research and public policy, the Board resumed its more normal activities. Nevertheless, there were a number of highlights to the year's activities which will have an important bearing on the future.

Before describing the events properly belonging to fiscal year 1988-89, it is worthwhile recounting the aftermath of CONNECTIONS '88. The symposium proved to be an outstanding substantive and financial success. A lasting legacy of the event is the recently published book, *Aging and Health: Linking Research and Public Policy*, a hardcover volume to be distributed to four continents. The book publishes 42 presentations which collectively preserve the content, and to some extent the "chemistry" of the symposium.

During the year the Provincial Commission on Future Directions in Health Care solicited views from a wide range of organizations, agencies, and individuals on the future of health care in Saskatchewan. The Board's brief outlined the underdeveloped state of Saskatchewan's health research sector, particularly in relation to the other western provinces. After reviewing the vital role of research in the prevention, treatment, and cure of disease, as well as health science education and the quality of care, the brief suggests that 1% of the provincial health budget be earmarked for research. This comparatively modest figure - the recommended figure for research and development investment as a percentage of expenditures is about 2%, and many advanced countries exceed this - would require total expenditures of approximately $14 million. This amount would apply to all government-funded health research activities - not just the annual grant to the SHRB, which would be a significant portion thereof.

A fortuitous event of 1988-89 has proved to be timely and relevant to the Board's activities over the next several years. Our Executive Director was seconded to Health and Welfare Canada to serve as the Director of the Indian Health Services Programme Evaluation from April through December of 1988. As it turned out, this experience should prove extremely valuable as the Board embarks on a major initiative in evaluation research made possible by a $500,000 addition to the budget for 1989-90 and, we hope, future years. The Board has begun preparing for a new era in evaluation research in 1989-90, and our next annual report will describe these efforts more fully.

Finally, the Board concluded negotiations surrounding the award of our second strategic and matching grant to Dr. Carl D'Arcy and his colleagues in the Pharmacoepidemiology Research Consortium at the University of Saskatchewan. This group will begin to tap the internationally recognized potential of the Saskatchewan Prescription Drug Plan data base, beginning with the creation of customized and linked files from Saskatchewan's main health programmes. The first strategic and matching grant, to Dr. Bruce Murphy and his colleagues in the Reproductive Biology Research Unit, University of Saskatchewan, has already proved to be a major success in terms of both scientific productivity and increasing the grant-generating capacity of local researchers. The Board places a high priority on holding a second strategic and matching grants competition should the required funding be forthcoming.

During the 1990s, both universities will undergo a particularly important period of transition. There will be a substantial turnover of faculty as the large group hired during the expansion era of the 1960s reaches retirement age. This will be a continent-wide phenomenon, and the recruitment competition will be intense. In the biomedical sciences in particular, this pressure will be compounded by the fact that the supply of new doctorates and people with postdoctoral experience has decreased in response to the lack of employment opportunities in the last decade.

These demographics create both an opportunity and a risk for Saskatchewan's health research community. If the universities succeed in phasing in an orderly and successful recruitment process, health research is likely to flourish. If, however, the province finds itself without a strategy for long-term renewal, the consequences of intense competition for talent from other jurisdictions may have serious effects. One way to achieve a successful transition to a new generation of investigators would be to fund a number of positions on an interim basis, whose occupants would eventually assume tenure-track jobs following the retirement of incumbents.

The health research community will be affected by these circumstances, and the inability either to recruit at all, or to attract high quality people, would have a devastating impact on the renewal process for perhaps decades to come. The province must develop a strategy for phasing in new people at a steady rate, preferably *before* the competition from other jurisdictions becomes more intense. One way to accomplish the transition is to fund a number of positions on an interim basis, whose occupants will eventually assume tenure-track jobs as the retirements come.

The Board will begin to document the likely scenario of the 1990s in the 1989-90 fiscal year. Based on the facts which come to light, the Board may come forward with a proposal to provide Research Scholar funding to assist the province in meeting the goal of beginning the next century with a full complement of vigorous health scientists. Similar programmes are in place elsewhere - notably the National Sciences and Engineering Research Council, which through its University Research Fellow Programme phased in new scientists during the 1980s. Once these programmes meet their objectives, they can be phased out. For a relatively modest investment of finite duration, the research community can reap long-term benefits in terms of quality, productivity, and grant generating capacity.

Bev Robertson

Dr. Bev Robertson
Chairman

2. LEGISLATIVE AUTHORITY AND MANDATE

The SHRB was established as a corporate body under The Health Research Act, proclaimed September 15, 1979, to administer the Saskatchewan Health Research Fund. The Board was empowered under the Act to "assist and stimulate research in the healing arts and health sciences including:

" - the causes, detection, distribution, prevention and management of human illness and disabling conditions;

" - health maintenance and health promotion;

" - the social, environmental, and biological aspects of the human aging process;

" - the utilization of health services."

The Board is to consist of at least six and not more than twelve members appointed by the Lieutenant Governor in Council who are residents of Saskatchewan as follows: two representatives from the health sciences or healing arts in the University of Saskatchewan; one from the University of Regina; one member from the Saskatchewan Department of Advanced Education and Manpower (now Department of Education); one member from the Saskatchewan Department of Health; and up to seven others. Both the Chairman and Vice-Chairman are designated by the Lieutenant Governor in Council. Appendix 1 lists the members who served on the Board during 1988-89.

3. THE SASKATCHEWAN HEALTH RESEARCH FUND

With the proclamation of the Act, the Saskatchewan Health Research Fund came into being for the purpose of assisting and stimulating research in the healing arts and health sciences. Through 1983-84 the Board was required to accumulate a capital fund of unspent reserves which at its maximum level reached $1,560,000. Since then the Board has been authorized to spend down the capital fund; the general operating grant for 1984-85 was zero, for 1985-86 was $400,000, for 1986-87 was $500,000, and for 1987-88 was again $500,000. (A special grant of $100,000 was also received during 1985-86 to hold a Gerontology Research Competition.) In 1988-89 the Board received $870,000. Attached as Appendix 2 are the financial statements which detail the financial transactions of the Board as certified by the Provincial Auditor.

4. COMPETITIONS AND AWARD CATEGORIES

The Board awards grants on the basis of an annual general competition, occasionally augmented by special competitions when funding is available. The ninth competition, with a closing date of March 15, 1988, invited applications in the following categories:

a) Establishment Grants to assist new researchers in becoming established in the province, to a maximum of $30,000 per annum for up to two years, non-renewable.

b) Research Fellowships in two categories: *Postdoctoral Fellowships,* for holders of a doctorate degree who wish to develop their fields of research and equip themselves for independent investigation in institutions in Saskatchewan, are valued at $23,820 in the first year and $25,440 in the second year, renewable in some circumstances for a third year upon reapplication with a value of 27,120. *Clinical Research Fellowships* are a new category, supporting holders of health professional degrees who wish to pursue careers as clinician researchers (i.e., those who remain in practice and conduct research as well). The stipend in this category varies with experience, and as for Postdoctoral Fellowships is commensurate with rates set by the Medical Research Council of Canada.

c) Socio-Health Research Grants of up to $30,000 per year for up to two years, non-renewable, open to all socio-health researchers in Saskatchewan.

d) Equipment Grants of up to $30,000 to provide new or essential replacement items for proven investigators with active research programmes and operating grants.

5. COMPETITION AND REVIEW PROCESS

The Board uses peer review as the major basis for the granting of awards. Appendices 3A, 3B, and 3C list the membership of the Biomedical, Socio-Health, and Personnel Awards Review Committees respectively during 1988-89. Each committee is chaired by a member of the Board, but all other members are drawn from the research community.

The review committees examine, adjudicate, and rank the applications received, and make recommendations to the Board on the order of funding priorities. Research grant applications are sent to two out-of-province experts for assessment. Personnel awards applications are assessed by the committees only. The Board receives the reports of the review committees and retains final authority to make all appropriations after considering the recommendations of its review committees.

6. PROFILE OF THE NINTH GENERAL COMPETITION (1988-89)

Table 1 summarizes the total number of applications, the numbers recommended for funding by the review committees, and the ultimate funding decisions of the Board.

All figures are down slightly from 1987-88, but the variation is to be expected given the heavy emphasis on applications from and funding of new investigators (whose numbers are unpredictable). The Board had somewhat less money available for distribution in the competition, and held its research grant ceiling constant for the fourth consecutive year. As indicated in previous annual reports, the demand for Board funds in no way reflects the demand for health research grants which would exist were there not severe restrictions on eligibility for the competitions. In addition, the *maximum* SHRB Research Grant is only half the *average* grant from the Medical

TABLE 1

SUMMARY OF ELIGIBLE APPLICATIONS
RECEIVED, RECOMMENDED, AND FUNDED
COMPETITION 9 (1988-89)

	APPL. RECEIVED		APPL. RECOMMENDED		APPL. FUNDED	
GRANT CATEGORY	No.	$ Requested	No.	$ Requested	No.	$ Awarded
Biomed. Establ.	13	$ 727,034	8	$408,611	8	$408,611
Biomed. Equip	4	83,025	1	8,200	1	8,200
BIOMED. SUBTOTALS	**17**	**$ 810,059**	**9**	**$416,811**	**9**	**$416,811**
Socio-Health Establ.	5	$ 220,835	2	$ 63,504	2	$ 63,504
Socio-Health Research	7	234,673	3	49,300	2	25,300
Socio-Health Equip.	1	5,475	0	0	0	0
SOCIO-HEALTH SUBTOT.	**13**	**$ 460,983**	**5**	**$112,804**	**4**	**$ 88,804**
Postdoctoral Fell.	10	$ 448 320	8	$349,800	5	$224,160
Clin. Research Fell.	1	36,710	1	36,710	1	36,710
FELLOWSHIP SUBTOT.	**11**	**$ 485,030**	**9**	**$386,510**	**6**	**$260,870**
Conference Grants	1	$ 560	1	$ 560	1	$ 560
GRAND TOTALS	**42**	**$1,756,632**	**24**	**$916,685**	**20**	**$767,045**

Research Council of Canada. The grants and awards for the 1988 competition are listed in Appendix 4.

7. STRATEGIC AND MATCHING GRANTS PROGRAMME

As reported in previous annual reports, the main purpose of the programme is to provide sufficient resources over an initial period of time to allow groups of investigators to develop more fully than would be the case if they continued to work in relative isolation. The expectation is that the initial funding provided by the SHRB over a three-to-five-year period will

increase the capacity and performance of research groups to the point where they can compete for large-scale funding from national and international agencies.

The Board has awarded two grants to date, as described below.

The Reproductive Biology Research Unit (RBRU)

The RBRU was founded in 1987 as a result of planning and collaboration between Dr. Bruce Murphy, a basic scientist, and Dr. David Popkin, Head, Department of Obstetrics and Gynecology in the College of Medicine. At the end of 1988 the group comprised four basic scientists, four clinicians, and seven graduate students. Highlights of the RBRU year include:

* 31 publications in refereed journals, 9 abstracts, and the editing of a book of proceedings;
* 1 patent granted (monoclonal antibodies), and 2 pending;
* 13 presentations to national and international scientific meetings;
* total 1988-89 external funding of $659,000, a significant portion of which is directly attributable to the SHRB's $100,000 first year core funding;
* the recruitment of Dr. Roger Pierson, and plans for the recruitment of a molecular biologist during 1989-90.

The scientific productivity of the group has already been remarkable, and the success of the core funding approach of the Strategic and Matching Grants Programme has proved extremely successful. As an example, Dr. Murphy was able to guarantee Dr. Pierson five years of salary funding because of the SHRB grant. However, Dr. Pierson in his first year already obtained both salary and operating grants from the Medical Research Council of Canada, which will allow the SHRB funds to be used for other personnel. Dr. Pierson alone is likely to generate $500,000 in total funding over the next five years or so, which matches the entire amount of the SHRB grant. As other scientists are recruited and become productive, the multiplier effect should be even greater.

The Pharmacoepidemiology Research Consortium

This research group, headed by Dr. Carl D'Arcy in the Department of Psychiatry, University of Saskatchewan, has been established to build up a centre of excellence investigating the use and effectiveness of pharmaceutical products. During 1988-89 the Memorandum of Agreement governing the grant was finalized among the consortium, the SHRB, and the University of Saskatchewan. The $500,000 five-year grant will be used for two main

purposes: first, the establishment of a customized data base linking Saskatchewan Prescription Drug Plan, Medical Care Insurance Branch, Saskatchewan Hospital Services Plan, and Psychiatric Services Branch data so that the linkages among physician visits, prescriptions, hospitalization, and diagnoses can be fully examined. This complex and expensive exercise should be completed by the beginning of 1990.

The second major thrust is recruitment. The consortium has been fortunate to recruit Dr. Nigel Rawson, an experienced pharmacoepidemiologist from Britain, who will join the University of Saskatchewan at the beginning of 1990. The group has already been successful in obtaining roughly $200,000 in external grants, primarily for the investigation of mood-modifying drugs. As the customized data base becomes available, the consortium plans to apply for a series of additional grants to investigate a wider range of topics.

8. DIRECTIONS FOR THE FUTURE

The Board will focus on four major areas in the immediate future:

1) Continuing to build up the health research infrastructure in the province, through its Establishment Grant and its Personnel Awards Programmes. There is a particular need to examine the personnel support programmes in light of experience to date, and what will be a growing need for highly qualified personnel in the next ten to fifteen years.

2) Assisting the health research community to effect an orderly transition to the next century as the retirement wave of the 1990s becomes imminent.

3) Further developments in the strategic and matching grants area, as the two groups initially funded already provide clear evidence of the usefulness of this approach.

4) A major initiative in evaluation research, based on an initial grant of $500,000 as part of the 1989-90 budget - to be described more fully in our next annual report.

The Board is encouraged by the fact that the Health Commission and health care managers and practitioners are showing an increased interest in health research of all types. As awareness of health research initiatives and accomplishments grows, the climate for conducting timely and relevant studies will improve. The ultimate objective is to achieve sufficient funding for health research to enable Saskatchewan to contribute to science in general; to maintain and improve both the quality and efficiency of health services; and to address problems unique, or especially prominent in the province.

APPENDIX 1
SASKATCHEWAN HEALTH RESEARCH BOARD
APRIL 1, 1988 THROUGH MARCH 31, 1989

ROBERTSON, Dr. Bev
(Chairman)
Dept. of Physics and Astronomy
University of Regina
Regina, Saskatchewan

RIDLEY, Dean Una
(Vice-Chairman)
College of Nursing
University of Saskatchewan
Saskatoon, Saskatchewan

ALLSEN, Mr. Gordon
Swift Current Union Hospital
Swift Current, Saskatchewan

ANDERSON, Ms. Dianne
University Affairs
5th Floor, 2220 College Avenue
Regina, Saskatchewan
(appointed by Order-in Council January 11, 1989)

BALA, Dr. Marvin
Department of Medicine
College of Medicine
University of Saskatchewan
Saskatoon, Saskatchewan

BOAN, Dr. John
Department of Economics
University of Regina
Regina, Saskatchewan
(appt. terminated by Order-in-Council January 11, 1989)

DAVIDSON, Ms. Toni
Vanscoy, Saskatchewan
(resigned March 15, 1989 - resignation accepted by Order-in-Council during 89-90 fiscal year)

HADDOCK, Ms. Shirley
Rosetown, Saskatchewan

HICKIE, Dr. Robert
Department of Pharmacology
College of Medicine
University of Saskatchewan
Saskatoon, Saskatchewan

HINDMARSH, Dr. Wayne
College of Pharmacy
University of Saskatchewan
Saskatoon, Saskatchewan

MATTHEWS, Dr. Peter
Department of Psychiatry
College of Medicine
University of Saskatchewan
Saskatoon, Saskatchewan

STARK-ADAMEC, Dr. Cannie
Department of Psychology
University of Regina
Regina, Saskatchewan
(appointed by Order-in Council January 11, 1989)

THOMSON Mr. Darrell
Department of Health
Government of Saskatchewan
Regina, Saskatchewan
(resignation accepted by Order-in-Council January 11, 1989)

WRIGHT, Dr. Don
Department of Advanced Education & Manpower
Government of Saskatchewan
Regina, Saskatchewan
(resignation accepted by Order-in-Council January 11, 1989)

YEATES, Ms. Glenda
Department of Health
Government of Saskatchewan
Regina, Saskatchewan
(appointed by Order-in-Council January 11, 1989)

APPENDIX 2

FINANCIAL STATEMENTS

AND

THE AUDITOR'S REPORT THEREON

SASKATCHEWAN HEALTH RESEARCH BOARD

FINANCIAL STATEMENTS

Year Ended March 31, 1989

OFFICE OF THE PROVINCIAL AUDITOR

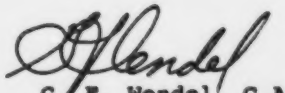
REGINA, SASKATCHEWAN

AUDITOR'S REPORT

To the Members of the Legislative Assembly
of Saskatchewan

I have examined the balance sheet of the Saskatchewan Health Research Board as at March 31, 1989 and the statements of revenue, expenditure and fund balance and changes in financial position for the year then ended. My examination was made in accordance with generally accepted auditing standards, and accordingly included such tests and other procedures as I considered necessary in the circumstances.

In my opinion, these financial statements present fairly the financial position of the Board as at March 31, 1989 and the results of its operations and the changes in its financial position for the year then ended in accordance with the accounting principles disclosed in Note 2 to the financial statements applied on a basis consistent with that of the preceding year.



Regina, Saskatchewan,
November 10, 1989

G. F. Wendel, C.A.,
A/Provincial Auditor.

Statement 1

SASKATCHEWAN HEALTH RESEARCH BOARD

BALANCE SHEET

As at March 31

	1989			1988
	General Fund	Gerontology Fund	Total	Total
ASSETS				
Cash (cash less outstanding cheques)	$ 9,784	$ 7,656	$ 17,440	$ 24,473
Accrued interest receivable	6,764	336	7,100	3,047
Accounts receivable	--	--	--	9,582
Inter-fund receivable (payable)	10,953	(10,953)	--	--
Investments, at cost which approximates market value	1,126,963	121,295	1,248,258	1,428,380
Fixed assets	19,209	--	19,209	18,811
Other assets	1,283	--	1,283	1,283
	$1,174,956	$118,334	$1,293,290	$1,485,576
LIABILITIES				
Liabilities:				
Accounts payable	$ 811	$ 6,815	$ 7,626	$ 9,089
Grants payable	806,878	(52)	806,826	971,414
	807,689	6,763	814,452	980,503
Equity:				
Equity in fixed assets	19,209	--	19,209	18,811
Fund balance (Statement 2)	348,058	111,571	459,629	486,262
	367,267	111,571	478,838	505,073
	$1,174,956	$118,334	$1,293,290	$1,485,576

(See accompanying notes)

Statement 2

SASKATCHEWAN HEALTH RESEARCH BOARD

STATEMENT OF REVENUE, EXPENDITURE AND FUND BALANCE

Year Ended March 31

	1989			1988
	General Fund	Gerontology Fund	Total	Total
Revenue:				
Grant - Department of Health	$ 870,000	$ --	$ 870,000	$500,000
Interest	136,065	12,296	148,361	114,132
Donations	--	--	--	79,100
	1,006,065	12,296	1,018,361	693,232
Expenditure:				
Research grants	954,731	(52)	954,679	836,670
Wages and benefits	49,867	3,500	53,367	65,812
Administrative and operating expenses	10,342	1,645	11,987	7,995
Honoraria and expenses of the board and committees	10,539	213	10,752	19,983
Furniture and fixtures	1,419	--	1,419	1,036
Rent	12,790	--	12,790	12,159
Conference expense	--	--	--	11,362
	1,039,688	5,306	1,044,994	955,017
Excess of revenue over expenditure (expenditure over revenue)	(33,623)	6,990	(26,633)	(261,785)
Fund balance, beginning of year	381,681	104,581	486,262	748,047
Fund balance, end of year - to Statement 1	$ 348,058	$111,571	$ 459,629	$486,262

(See accompanying notes)

Statement 3

SASKATCHEWAN HEALTH RESEARCH BOARD

STATEMENT OF CHANGES IN FINANCIAL POSITION

Year Ended March 31

	1989			1988
	General Fund	Gerontology Fund	Total	Total
Cash provided by (used in):				
Operating Activities:				
Grant receipts	$ 870,000	$ --	$ 870,000	$ 500,000
Interest and other receipts	131,528	22,506	154,034	301,796
Grants paid	(1,115,491)	(4,000)	(1,119,491)	(589,950)
Other disbursements	(84,551)	(7,146)	(91,697)	(210,646)
Decrease (increase) in inter-fund receivable	(258)	258	--	--
	(198,772)	11,618	(187,154)	1,200
Investment Activities:				
Proceeds from matured investments	7,571,708	908,616	8,480,324	8,057,819
Purchase of investments	(7,374,481)	(925,722)	(8,300,203)	(8,008,821)
	197,227	(17,106)	180,121	48,998
Increase (decrease) in cash during the year	(1,545)	(5,488)	(7,033)	50,198
Cash balance, beginning of year	11,329	13,144	24,473	(25,725)
Cash balance, end of year	$ 9,784	$ 7,656	$ 17,440	$ 24,473

(See accompanying notes)

SASKATCHEWAN HEALTH RESEARCH BOARD

NOTES TO THE FINANCIAL STATEMENTS

March 31, 1989

1. Authority

The Saskatchewan Health Research Board was established under the provisions of The Health Research Act for the purpose of assisting and stimulating research in the healing arts and health sciences. Pursuant to proclamation of the Act, the Board came into being on September 15, 1979. During 1981 the Board was awarded status as a registered charity under The Income Tax Act.

Under The Health Research Act, the Saskatchewan Health Research Fund was also established, through which all transactions of the Board are conducted. This Fund is comprised of two components: The General Fund and The Gerontology Fund. The revenues and expenditures for each component is separately accounted for in the financial statements.

The Gerontology Fund was established in the 1986 fiscal year pursuant to an agreement entered into between the Department of Health and the Saskatchewan Health Research Board under which the Board agreed to administer and allocate monies received from the Department. The agreement also provided that the use of these funds be restricted to gerontology research and costs incurred in administering and allocating the funds.

2. Accounting Policies

a) Fund Accounting

The Saskatchewan Health Research Board follows fund accounting procedures in which a self-balancing group of accounts is provided for each Fund.

b) Research Grants

The Saskatchewan Health Research Board holds annual competitions through which funds are awarded to successful applicants for terms of up to two years. The Board follows the policy of recording the grant awards approved and committed during the year as expenditures. At year end, awards which have not been paid to individuals or to institutions administering awards on behalf of researchers but which are still committed for a competition are shown as grants payable on the balance sheet. The balance of funds advanced to administering institutions in excess of the current requirements of researchers is held in trust by those institutions until drawn down by the researchers. In the event of the completion or termination of a project, or non-compliance with the terms of an award, the balance of unexpended funds is treated as a reduction of grant expenditure in the year that this is determined. These funds are then available to be awarded for future research.

c) Fixed Assets

Fixed assets purchases are charged as an expense against operations in the year of purchase and are therefore not depreciated. All fixed asset additions charged to expense are reflected in the statement of revenue, expenditure and fund balance. To reflect accountability for fixed assets in the financial statements, it is necessary to record them as balance sheet assets with a corresponding entry to "Equity in Fixed Assets". On disposition, the original cost of fixed assets is removed from the fixed assets and equity in fixed assets accounts and proceeds are recorded as other revenue.

d) Investments

Investments are recorded at cost.

e) Donations

Donations are recorded as revenue when cash is received or their receipt is reasonably certain.

3. Cash and Investments

In accordance with a request of the Department of Health, the Board agreed to retain portions of Provincial grants provided in previous years to the General Fund as invested capital. During 1984/85, the Department authorized the Board to begin drawing down on these accumulated funds to support current expenditures for research and administration. Accordingly, the Board considers that, of the cash and investments balance at March 31, 1989, $101,637 was being retained as invested capital of the General Fund (March 31, 1988 - $135,180).

4. Related Parties

Included in these financial statements are expenses resulting from routine operating transactions conducted at prevailing market prices with various Saskatchewan crown controlled departments, agencies and corporations with which the Board is related.

Account balances resulting from these transactions are included in the balance sheet and are settled on normal trade terms.

5. Commitments

As at March 31, 1989, the Board was committed to a lease agreement for office premises with payments of $1,008 per month to July 31, 1990.

The Board has committed $500,000 to the Reproductive Biology Research Unit, the Department of Obstetrics & Gynaecology of the College of Medicine at the University of Saskatchewan. The Board has committed a further $500,000 to Pharmaco-epidemiology Research Consortium, the Department of Phychiatry at the University of Saskatchewan. The grants will be paid out over a five year period starting January 1, 1988, and July 1, 1988, respectively. During the year ended March 31, 1989, $200,000 (March 31, 1988 - $100,000) was awarded. The balance is contingent upon the appropriation of funds to the Board by the Saskatchewan legislature in each of the fiscal years 1989-90 through 1992-93. Future awards are also subject to positive evaluation of the research program by the Board.

APPENDIX 3A

SASKATCHEWAN HEALTH RESEARCH BOARD
BIOMEDICAL REVIEW COMMITTEE
COMPETITION 9 (1988)

HICKIE, Dr. Robert (3)
(Chairman)
Department of Pharmacology
College of Medicine
University of Saskatchewan
Saskatoon, Saskatchewan

CARD, Dr. Robert (3)
Department of Medicine
College of Medicine
University of Saskatchewan
Saskatoon, Saskatchewan

CONLY, Dr. John (1)
Department of Microbiology
College of Medicine
University of Saskatchewan
Saskatoon, Saskatchewan

DOIGE, Dr. Cecil (1)
Department of Vet. Pathology
Western College of Vet. Med.
University of Saskatchewan
Saskatoon, Saskatchewan

KELLN, Dr. Rod (4)
Department of Chemistry
University of Regina
Regina, Saskatchewan

KHACHATOURIANS, Dr. George (1)
Dept. of Applied Microbiology
and Food Science
College of Agriculture
University of Saskatchewan
Saskatoon, Saskatchewan

KOMIYAMA, Dr. Kunio (3)
Department of Oral Biology
College of Dentistry
University of Saskatchewan
Saskatoon, Saskatchewan

McKAY, Dr. Gordon (2)
College of Pharmacy
University of Saskatchewan
Saskatoon, Saskatchewan

MUNOZ, Dr. David
Department of Pathology (2)
College of Medicine
University of Saskatchewan
Saskatoon, Saskatchewan

RICHARDSON, Dr. Steven (3)
Department of Pharmacology
College of Medicine
University of Saskatchewan
Saskatoon, Saskatchewan

WARRINGTON, Dr. Robert (2)
Department of Biochemistry
College of Medicine
University of Saskatchewan
Saskatoon, Saskatchewan

WOLLIN, Dr. Armin (2)
Department of Physiology
College of Medicine
University of Saskatchewan
Saskatoon, Saskatchewan

Figure in parentheses indicates consecutive number of years served, including the current competition.

APPENDIX 3B

SASKATCHEWAN HEALTH RESEARCH BOARD
SOCIO-HEALTH REVIEW COMMITTEE
COMPETITION 9 (1988)

BOAN, Dr. John (3)
(Chairman)
Department of Economics
Faculty of Arts
University of Regina
Regina, Saskatchewan

DASTMALCHIAN, Dr. Ali (2)
Industrial Relations
and Organizational
Behaviour
College of Commerce
University of Saskatchewan
Saskatoon, Saskatchewan

DICKINSON, Dr. Harley (2)
Department of Sociology
College of Arts and Science
University of Saskatchewan
Saskatoon, Saskatchewan

FEATHER, Ms. Joan (1)
Dept. of Community Health
and Epidemiology
College of Medicine
University of Saskatchewan
Saskatoon, Saskatchewan

HEMINGWAY, Dr. Peter (3)
Department of Educational
Psychology
Faculty of Education
University of Regina
Regina, Saskatchewan

LAING, Ms. Gail (2)
College of Nursing
University of Saskatchewan
Saskatoon, Saskatchewan

LI, Dr. Peter (2)
Department of Sociology
College of Arts and Science
University of Saskatchewan
Saskatoon, Saskatchewan

SMITH, Ms. Pamela (2)
Sample Survey and Data
Bank Unit
University of Regina
Regina, Saskatchewan

STARK-ADAMEC, Dr. Cannie (2)
Department of Psychology
Faculty of Arts
University of Regina
Regina, Saskatchewan

von BAEYER, Dr. Carl (1)
Department of Psychology
College of Arts and Science
University of Saskatchewan
Saskatoon, Saskatchewan

Figure in parentheses indicates consecutive number of years served, including the current competition.

APPENDIX 3C

SASKATCHEWAN HEALTH RESEARCH BOARD
PERSONNEL AWARDS REVIEW COMMITTEE
COMPETITION 9 (1988)

HINDMARSH, Dr. Wayne (1)
(Chairman)
College of Pharmacy
University of Saskatchewan
Saskatoon, Saskatchewan

ASHTON, Dr. Neil (1)
Department of Biology
Faculty of Science
University of Regina
Regina, Saskatchewan

COCKCROFT, Dr. Donald
Pulmonary Medicine Section (2)
Department of Medicine
University Hospital
Saskatoon, Saskatchewan

EVERED, Dr. Mark
Department of Physiology (3)
College of Medicine
University of Saskatchewan
Saskatoon, Saskatchewan

HERMAN, Dr. Robert
Department of Pharmacology (2)
College of Medicine
University of Saskatchewan
Saskatoon, Saskatchewan

KIRKPATRICK, Dr. Lynn (2)
Department of Chemistry
Faculty of Science
University of Regina
Regina, Saskatchewan

LEE, Dr. Jeremy (1)
Department of Biochemistry
College of Medicine
University of Saskatchewan
Saskatoon, Saskatchewan

MANNS, Dr. James (2)
College of Graduate Studies
and Research
University of Saskatchewan
Saskatoon, Saskatchewan

WALLACE, Dr. Sylvia (3)
College of Pharmacy
University of Saskatchewan
Saskatoon, Saskatchewan

Figure in parentheses indicates consecutive number of years served, including the current competition.

APPENDIX 4

SASKATCHEWAN HEALTH RESEARCH BOARD
AWARDS GRANTED
COMPETITION 9 (1988)

RESEARCH FELLOWSHIPS

CROSSLEY, Margaret (Hiscock, M.)	23,820	88-89
Psychiatry, University of Saskatchewan	25,440	89-90
Age-related cognitive change		
CUNY, Robert (Fedoroff, S.)	23,820	88-89
Anatomy, University of Saskatchewan	25,440	89-90
Specific gene expression in the small round cell lineage during early mouse brain development		
DAVIES, Michael (Boulton, A.)	23,820	88-89
Pschiatry, University of Saskatchewan	25,440	89-90
The mechanism(s) of action of tryptamine at the level of the single cell		
DOCHERTY, John (Wilson, T.)	27,120	88-89
Pharmacology, University of Saskatchewan		
Control of leukotriene formation in human neutrophils; Effects of anti-inflammatory steroids on leukotriene formation in human leukocytes		
YORK, Laura Jean (Loh, L.)	23,820	88-89
Microbiology, University of Saskatchewan	25,440	89-90
The role of viral glycoproteins in cytotoxic T cell immunity to cytomegalovirus		

CLINICAL RESEARCH FELLOWSHIPS

McPARLAND, Ian	36,710	88-89
Medicine, University of Saskatchewan		
Effects of oral corticosteroids on human diaphragmatic strength; Effect of physical training on the relation between dyspnoea and inspiratory motor input		

BIOMEDICAL ESTABLISHMENT GRANTS

BLANCHETOT, Alain	15,000	88-89
Biochemistry, University of Saskatchewan	8,000	89-90
Applications of hypervariable DNA in invertebrate and mammalian genomes		
GEORGE, David	30,000	88-89
Pathology, University of Saskatchewan	30,000	89-90
The structural and developmental basis of megalencephaly and epilepsy in the "epi" chicken		

GOPALAKRISHNAN, Venkat Pharmacology, University of Saskatchewan Cellular and subcellular basis for the hepatic actions of vasopressin	29,700 28,800	88-89 89-90
HIEBERT, Linda Physiology, University of Saskatchewan The effect of heparin, heparin fractions and heparan sulfate on endothelial cell damage by oxygen metabolites	30,000 30,000	88-89 89-90
LOZANOFF, Scott Anatomy, University of Saskatchewan Growth and the emergence of form in the anterior cranial base of the Macaque moneky (Macaca mulatta)	30,000 29,963	88-89 89-90
MacINTOSH, Brian Physiology, University of Saskatchewan Contracture or rigor bonds with cardiac ischemia/ hypoxia	27,400	88-89
ROUSSEAUX, Colin Veterinary Pathology, University of Saskatchewan Mechanisms of skeletal teratogenesis following chelating agent administration	29,764 29,984	88-89 89-90
SHEVCHUK, Yvonne Pharmacy, University of Saskatchewan Risk factors associated with hypoprothrombinemia and bleeding in critically ill patients on antibiotics	30,000 30,000	88-89 89-90

SOCIO-HEALTH ESTABLISHMENT GRANTS

ALFANO, Dennis Psychology, University of Regina Neuropsychological and psychosocial recovery after head injury	25,167 19,025	88-89 89-90
FOWLER-KERRY, Susan Nursing, University of Saskatchewan Management of chemotherapy pain in a pediatric sample	19,312	88-89

SOCIO-HEALTH RESEARCH GRANTS

DASTMALCHIAN, Ali IROB, College of Commerce, University of Saskatchewan Organizational structure and climate in hospitals	15,300	88-89
WETZEL, Kurt IROB, College of Commerce, University of Saskatchewan The effects of professional commitment upon employer and union commitment among nurses in Saskatchewan	10,000	88-89

EQUIPMENT GRANTS

MacINTOSH, Brian Physiology, University of Saskatchewan Transducer - Model 300B - Cambridge Technology Inc.	8,200	88-89

CONFERENCE GRANTS

Community programming for the well preschool child	560	88-89